ASSAYERS

ORE DRESSING PROBLEMS

OSCAR N. BRIBACH
POST OFFICE B[redacted]
AURORA, COLORADO
LABORATORY IN REAR OF 800 DAYTON ST.

CERTIFICATE OF ASSAYS

PHONE AURORA 1119-W

FOR Keenan Properties DATE Nov. 12, 1951

DESCRIPTION	OUNCES PER TON GOLD	~~SILVER~~ Tow O3	~~COPPER~~ PER CENT Cb x O5	~~LEAD~~ PER CENT Ta x O5	~~ZINC~~ PER CENT Tin	Weight PER CENT	PER CENT	PER CENT
Screen Analysis on Tailing Sample Ammundson Trench H.								
Product								
+6 mesh	0.00	0.11	0.08	0.04	0.25	16.1		
+8 "	0.00	0.07	0.04	0.03	0.3	12.0		
+10 "	0.00	0.03	0.04	0.02	0.2	14.1		
+14 "	0.00	0.05	0.07	0.02	0.4	13.4		
+20 "	0.00	0.04	0.07	0.03	0.3	10.6		
+65 "	0.006	0.03	0.08	0.03	0.3	22.9		
-65 "	0.02	0.08	0.08	0.04	0.35	10.9		

CHARGES $ 180.00

Assaying $175.00 To 25.00
Screen Analysis Work 5.00

BY OSCAR N. BRIBACH

Oscar N. Bribach

ANALYSIS OF TIN METAL IN TIN CONCENTRATES FROM KEENAN PROPERTIES.

TIN PROCESSING CORPORATION.

TEXAS CITY SMELTER LABORATORY ANALYSIS No. B.-1647, August 11, 1948.

Tin in concentrates..... 28.82%

Analysis of Tin...	Sb	.05%
	As	.01%
	Pb	.02%
	Bi	.01%
	Cu	.05%
	Zn	.24%
	S	.31%
	Solubl.Sn	.14%

ASSAYERS

ORE DRESSING PROBLEMS

OSCAR N. BRIBACH
POST OFFICE BOX 321
AURORA, COLORADO
LABORATORY IN REAR OF 800 DAYTON ST.

CERTIFICATE OF ASSAYS

PHONE AURORA 1119-W

FOR Keenan Properties

DATE Nov. 12, 1951

DESCRIPTION	OUNCES PER TON ~~GOLD~~ Gold	~~SILVER~~ % WO_3	COPPER PER CENT Cu_2O_5	~~LEAD~~ PER CENT Ta_2O_5	~~ZINC~~ PER CENT Tin	Weight grams ~~PER CENT~~	PER CENT	PER CENT
Tailing Sample	0.61	0.06	0.07	0.04	0.35	1881		
Amundson Trench 4								

CHARGES $ 25.00

BY Oscar N. Bribach
OSCAR N. BRIBACH

OSCAR N. BRIBACH

Assayers, Chemists, and Technicians
Ore Treatment Problems

~~XXXXXXXXX~~
~~XXXXXXXXX~~
~~XXXX~~, Colorado October 1,1951

WE CERTIFY that samples assayed for Kennan Properties

Gave the Following Results:

DESCRIPTION	~~XXXXXXXX~~ GOLD Mg. Gold	~~SILVER~~ % WO_3	~~COPPER~~ PER CENT $\%Cb_2O_5$	~~LEAD~~ PER CENT Ta_2O_5	~~ZINC~~ PER CENT Tin	Weight of Sample
Trench#2 S 23-24-25	0.11	trace	0.05	trace	0.3	1582 grams
" #3 26-30	none	trace	0.09	0.05	0.5	938 "
" #3 31-32	0.20	trace	trace	trace	0.1	1484 "
" #4 34-40	0.19	trace	0.14	0.07	0.6	1440 "
" #5 41-47	0.16	trace	0.12	0.06	0.5	1700 "
" #7 48-50	0.11	trace	trace	trace	0.1	1689 "
Lower Depth High Bar	0.44	0.01	2.7	1.4	4.3	34 "
Trench #1 Shaft#1	0.15	trace	trace	trace	0.1	1100 "
" #8 S 56-57	none	0.01	0.10	0.05	0.2	1469 "
" #8 S 58	0.06	none	none	none	trace	931 "
" #9 S61-67	0.10	trace	trace	trace	0.2	1453 "
1 Pan UpCentinnal	2.21	none	3.5	1.9	53.6	8.2 "
K.P. Mall Aug.3,1951	0.04	none	3.7	2.0	29.4	14.0 "
1 Pan Humble Cabin	0.01	none	3.9	2.1	55.8	16.4 "
1 Pan Nigger Gulch	0.23	none	2.5	1.2	32.9	9.8 "
Trench #1 Shaft #2	none	none	none	none	0.2	1064 "
Trench #1 Shaft #3	0.25	none	~~none~~ trace	trace	~~trace~~ 0.1	1294 "
Trench #6 S.51-55	0.37	0.01	none	none	0.2	1369 "
Trench #8 S.56-57	none	0.01	trace	trace	0.2	1315 "
High Bar	none	none	trace	trace	0.1	808 "

$500.00

Charges $.....

OSCAR N. BRIBACH

By Oscar N. Bribach

ASSAYERS

ORE DRESSING PROBLEMS

OSCAR N. BRIBACH
POST OFFICE BOX 321
AURORA, COLORADO
LABORATORY IN REAR OF 800 DAYTON ST.

CERTIFICATE OF ASSAYS

PHONE AURORA 1119-W

FOR Keenan Properties DATE Aug. 22, 1951

DESCRIPTION	OUNCES PER TON GOLD	OUNCES PER TON SILVER	COPPER PER CENT	LEAD PER CENT	WO_3 ~~ZINC~~ PER CENT	Cb_2O_5 PER CENT	Ta_2O_5 PER CENT	Tin PER CENT
Specimens	None				0.1	15.2	11.1	0.3
K.P. Two Bit-Bear	8.44				0.7	5.1	3.9	26.7
Ratio Columbium Oxid (Niobium Oxide) to Tantalum Oxide								
		15.2					11.1	
2@25.00		100.0					80.0	
		Cb_2O_5					Ta_2O_5	
Columbium is the same as Niobium								

CHARGES $ 50.00

BY Oscar N. Bribach
OSCAR N. BRIBACH

ASSAYERS

ORE DRESSING PROBLEMS

OSCAR N. BRIBACH
POST OFFICE BOX 321
AURORA, COLORADO
LABORATORY IN REAR OF 800 DAYTON ST.

CERTIFICATE OF ASSAYS

PHONE AURORA 1119-W

FOR Keenan Properties

DATE Oct. 27,1951

DESCRIPTION	OUNCES PER TON mgs.	Weight	COPPER PER CENT	LEAD PER CENT	ZINC PER CENT	Tin PER CENT	PER CENT	PER CENT
Composite Sample	1.17	8131 grm	0.07	0.23	0.12	7.0		
Repeat assays on Trench 4 De.Equip				1.28	0.67			
Amundson Trench 4	332.76	304 gram	0.97	3.46	1.93	44.2		
Columbite-Tantalite mineral picked out of jig concentrate sample had a specific gravity Of 6.05								
2 [illegible] $25.00								
Gravity test and sorting		$5.00						

CHARGES $ 30.00

BY Oscar N. Bribach

OSCAR N. BRIBACH

OSCAR M. ERIBACH

1948 Broadway
TAbor 5403
Denver, Colorado

Oct. 19, 1951

Peggy Keenan:

It might be of help to report when I was working with the concentrates in 48-49 I found that the Sp. G. of Columbite-tantalite ranged from 6.1 to 6.3.

And the gange closely associated with it had a Sp. G. of 2.7 and probably is the mineral anorthite. In examining the recent Denver Equipment jig concentrate products I noted the presence of lime in the residue after fusing with potassium persulphate during the analytical work. This also indicates the gangue is probably anorthite.

(signed) OMB

Another thing on the Sp. G. of the tantalite-columbite--the fact that the ratio of Ta_2O_5 to Cb_2O_5 by analysis is about 30% Ta_2O_5 to 50% Cb_2O_5--indicates a Sp. G. as found in the 48-49 work #(the presence of true middling anorthite attached to T.C.)

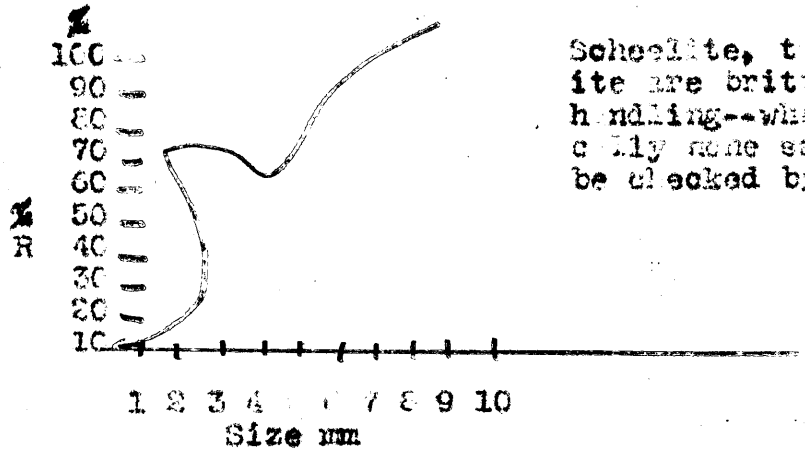
#Explanation--The jig by Denver Equipment work was well done. So true middling in which the anorthite was of minor amount traveled into the concentr te product. The fact is that this middling is indicated. It is quite probable the anorthite is the major amount attached to T-C or tin mineral. This would decrease the Sp. G. of T-C-tin and the attachment would cause the Cb_2O_5-Ta_2O_5 and tin to be lost in the tailing product.
(Some more extemporaneous scribbling)

OMB

Miss Peggy Keenan
Keenan Properties, Inc.
Spearfish, South Dakota

Pencil notes on spontaneous thinking:

Sp. Gr. of Scheelite--[illegible].9 - 6.1 - H - 4.[illegible] - 8 --brittle
" " " Tantalite--[illegible].3 - 7.3 - H - 6 --brittle
" " " Gold --15.6 - 19.3 - H - 2.5 - 3 --malleable
" " " Cassiterite--6.8 - 7.1 - H - 6 - 7 --brittle



Scheelite, tantalite and cassiterite are brittle and will break in handling--when below 1 mm. practically none saved by jig. This can be checked by a synthetic sample.

In regard to the sampling operation

I would suggest that you check this by making up a synthetic 5,000 pound sample using scheelite, tantalite and cassiterite minerals recovered from your 1949 sampling operation and diluting it with material taken from the cuts you are now making.

The pit operation could be checked by using 2,500 pounds of the synthetic sample starting it where the gravel is loaded in the buckets. That is, have the shovel pick up the sample from the ground.

The testing plant could be checked by using the remaining 2,500 pounds starting where the gravel is slowly shoveled into the hopper.

I presume however all this has been done and the engineers are informed.

Very truly yours,

(signed) Oscar A. Bribach

(Another thought) To recover gold--the bottom of the shovel bucket must be a part of the (1 piece of metal) sides. It must be emptied from the top.

OSCAR N. BRIBACH

Assayers, Chemists, and Technicians
Ore Treatment Problems

~~1948 Broadway~~
~~TAbor 5403~~
Denver, Colorado Jan. 26, 1950

WE CERTIFY that samples assayed for _____

Gave the Following Results:

DESCRIPTION	OUNCES PER TON GOLD	OUNCES PER TON SILVER	COPPER PER CENT	LEAD PER CENT	ZINC PER CENT			
Peggy Keenan,								
Keenan Properties,								
Spearfish, S.D.								

Dear Mr Keenan:-

During the time available I have been experimenting on your sample X-9.

I think a chemical method will be more reliable to separate this product.

My recent tests are encouraging

[redacted]	Weight	% Tin	% of Tin
Heads X-9	10.0 gr.	39.2	100.0
Tin product	5.405 gr	70.6	98.4

The earth acids and tungsten are in a product. This product is another problem.

Very truly yours,
Oscar N. Bribach

P.S.

OSCAR N. BRIBACH

Charges $.....

By _____

LOSS OF VALUES FROM KEENAN PROPERTIES PLACER GRAVELS
DURING THE PHASE 1. 1951 TEST OPERATIONS.

Daily records, affidavits, statements and Motion Picture films are available to substantiate the following:

A. LOSS IN WALTER W. JOHNSON AND BUREAU OF MINES OPERATED TEST PLANT.

1. Pan American Pulsator Jig.

a. This jig is designed chiefly for cleaning rougher concentrates from primary jigs on a gold product, and is not suitable for the recovery of lighter specific gravity materials as a rougher jig.

b. NO SHOT was used, except for the composite sample.

c. In complete disregard of engineering principles and accepted operating specifications, NO BED was prepared and each run had to make its own new bed of concentrates.

d. Water supply to the jig was 35 gallons per minutes, or approximately 11 gallons per minute in excess.(See Taggart 11-30,31, tables 31,32,33.)

e. Feed to the jig was delivered under water pressure from a 3" pump, over the slope of the sluice box, without a distributor, and diluted far in excess of maximum allowable of 3:1. This naturally caused high losses, since Scheelite, Tantalite and Cassiterite are brittle and will break up under such handling. (See motion pictures and notes from Oscar N. Bribach, Sept 10, 21, Oct.19th. 1951.)

f. A large percentage of tailings were washed over the top of the catch-barrel by the force of high water and lost. NO ASSAYS were ever made of the tailings. (See Bribach analysis of the Amundson re-check tailings.)

g. Concentrates were found on the ground beyond the water run-off.

h. The concentrates in the upper riffles were removed by the panner each day and the gold panned out in his cabin. The operator was never allowed to see the operation of the gold recovery or the return of the upper sluice concentrates to the rougher concentrate before the samples were divided.

i. Attention is called to the percentages and values of the Bribach assays on Trench 4 of the 1951 testing by Walter W. Johnson, to the Bribach assays on Earl R, Amundson's re-check of his first testing of Trench 4, to the Bribach screen analysis attached, and to the Bribach assay of the tailings of Amundson's Trench 4 All-jig product, as follows:

TRENCH 4.

		m.g Gold	Tin %	WO_3%	Cb_2O_5%	Ta_2O_5%
1/	W.W.Johnson Test.	0.19	0.6	trace	0.14	0.07
2/	Amundson sluice-jig product. (first re-check)	303.63	35.7	1.02	1.15	0.62
		(see Denver Equipment Labty Test C.C.-20269)				
3/	Amundson All-jig product (second re-check)	332.76	44.2	0.97	3.46	1.93
4/	Tailings from above product.	0.61	0.35	0.06	0.07	0.04

It is noted that Johnson Trench 4 concentrate assay shows only slightly higher values than the Amundson re-check tailings assay.

B. EXAMPLES OF LOSS IN RECOVERY.

a. Reference is again made to the Oct.19, 1951 Bribach notes in which, comparing his 1948-49 Keenan Properties assays to the Amundson re-check assays, he sets forth that the Denver Equipment Laboratory work on the Amundson re-check samples shed light on the Johnson loss of Tin, Cb-Ta by means of pointing up the middlings and subsequent loss in tailings.

b. In reference to the Amundson re-check assays (2/ above) from his first recovery from Trench 4 using sluice box and jig methods, and his second re-check of Trench 4 using all-jig recovery,(3/,4/ above) the importance of proper water control and value in tailings are apparent. Before the Amundson re-checks were made, a heads sample was panned by hand, with witnesses, (See following assay,Aug.22, 1951.)

Gold ozptn.	WO_3%	Cb_2O_5%	Ta_2O_5%	Tin%
8.44	0.7	5.1	3.9	26.7

c. From the above, a loss of values is indicated by the Johnson-Bureau of Mines operations due to the methods and equipment used, and the unorthodox discounting of concentrate tailings. It appears evident that the values are contained in the gravels, but must be recovered by competent engineers using proven engineering methods and practices.

C. LOSS IN SAMPLING OF CHANNELS BY WALTER W. JOHNSON AND BUREAU OF MINES.

a. In the October 1-7 1951 Amundson re-check of the original test channels, specific information can be furnished that in many instances the original Johnson-Bureau of Mines channels were not cut to or into bedrock. It is absolutely necessary to include bedrock material for the accurate evaluation of gravel.

b. The operator and witnesses observed several instances where boulders were mistaken for bedrock. The boulders are still in place.

c. At the bottom of many channels, especially in trenches 1 and 8, the water was never drained or pumped from bedrock at the time gravel was removed for sampling, therefore, the bedrock could not be cleaned of accumulated concentrates. It is an established engineering fact that concentrates are lost with water slushing on bedrock during test recovery.

d. The channels in the test trenches were always made in the gravel on the upstream side of the trenches. Much of the water in Bear, Potato and Beaver Creeks runs above bedrock and under the surface gravel. Consequently, as can be testified, the lower parts of the channel cuts poured water constantly, and gravel was washed onto bedrock and slushed away. This precludes recovery of important gravel values.

e. Trench 8 region is Known to be especially rich. Two-thirds of the trench was never channeled or sampled, or even pumped out. See Earl R. Amundson, Potato Creek, Trench 8, showing 3.48 pounds concentrate per cu.yd. containing:

Mg Gold	Tin	WO_3	Cb_2O_5	Ta_2O_5.
270.33	42.4%	1.31%	1.21%	0.54%

Also see Bribach assay and Denver Equipment Laboratory Report CC-20269

PROPOSAL - PHASE 2.

DMEA CONTRACT IDM-E-58, DOCKET 654-X, DATED JULY 16, 1951, BETWEEN UNITED STATES OF AMERICA AND PEGGY KEENAN d/b/a/ KEENAN PROPERTIES.

1. MS-392, Beaver Creek, referred to in Appendix I. Exhibit "A", paragraph "b, lease dated November 1, 1949 placer Mineral Survey 392, unrecorded." Refer to Affidavit April 1951 re claims located on upper Beaver Creek controlled by lease dated August 8, 1948.

During Phase 1, two test shafts were excavated by dragline on MS-392. The shafts were not excavated to bedrock, planned excavation by caisson methods was not consummated. No tests were made, no assays reported. Previous information reports tin, columbium, gold in the gravel. Previous estimate of the gravel 1,677,000 cubic yards. It is proposed to excavate by caisson methods and channel the above mentioned shafts to bedrock, sample and assay.

It is proposed:

a. To drill 12 lines of holes to bedrock 1000' a part across the stream gravel bed on contract, the drill holes to be 50 feet apart on each line of drill holes, the material recovered concentrated, sampled and assayed.

b. To finish shafts Phase 1 work, channel, concentrate, sample and assay.

c. To excavate 4 shafts using dragline, D-8 Caterpillar, caisson, and channel, concentrate sample and assay. The shafts to be at locations marked on K.P.A., K.P.B.

Note: Each shaft throughout shall have 2-6" x 24" channels to bedrock.

2. High Bar Gravel (Old Potato River). Refer to attached map marked K.P.A. A large part of the High Bar is located above the present stream channels on Keenan Properties. Reportedly the High Bar contains 1,000,000 cubic yards plus.

During Phase 1, a trench was excavated by dragline to a depth of 19' to bedrock in the High Bar gravel on lode claim Mayflower 7107. Four No. 7 pans of gravel near bedrock were concentrated to 34 grams and assayed:

Au (mg)	WO_3%	Cb_2O_5%	Ta_2O_5%	Sn %
3.44	0.01	2.7	1.4	4.5

This property is controlled by lease dated August 8, 1948.

It is proposed:

a. To drill 24 holes average depth 20' to bedrock at locations tentatively located on the attached map marked KP.A. The exact location of drill holes may be changed by the Operator advised by Government Engineers if conditions indicate it is best to do so. The material recovered to be concentrated sampled and assayed.

b. To excavate 3 shafts or test pits at locations to be decided upon by Operator concurred by Government Engineers. Material recovered from channels to be concentrated, sampled, assayed.

3. Sand Creek, Crook County, Wyoming, Keenan Properties controls the placer claims on this Creek. Sand Creek flows northwest into Wyoming. It originates in the same area and flows through the same highly mineralized dikes as Bear, Potato, and Beaver Creeks. It is fed by tributaries, especially Mallory Gulch and Spotted Tail. Sample concentrates recovered from two pans gravel from Mallory Gulch August 3, 1951 assayed:

Au (mg)	WO_3%	Cb_2O_5%	Ta_2O_5%	Sn %
0.04	----	3.9	2.1	55.8

Previous information on Sand Creek gravel values indicates commercial quantities and yardages (551,000 cu. yds.).

This property is controlled by lease dated November 30, 1951.

It is proposed to amend the contract to include Sand Creek claims lease, copy of lease and map marked KP-B attached.

It is proposed:

a. To drill 4 lines of holes 50' apart to bedrock at locations indicated on the chart marked KP-C. Average depth 17' to bedrock, material to be concentrated, sampled and assayed.

b. To excavate 6 shafts or test pits at locations to be determined by the Operator, concurred in by Government engineers. The shafts to be channeled, concentrated, sampled, and assayed.

4. MS-393 -- 70 Flats on lower Bear Creek. Referring to Johnson report Trench 1 and Operator's re-check values, Trench 1: The Johnson reports values in Trench 1, were reported as 28¢ per cubic yard. The re-check values by the Operator observed by an Engineer, reports the values on the upper side of the Trench, Channels 1, 2, 3, as 73¢ per cubic yard and

indicates the gravel values in MS-393. The placer gravels are 250' wide and average 15' deep for approximately 1-1/8 miles.

It is proposed to amend the contract and include the attached lease MS-393, test the values and compute the yardage. Previous information reports the values to be commercial in tin and gold. The estimated yardage is 790,460 cubic yards.

It is proposed:

a. To drill 4 lines of holes 50' apart to bedrock every 1000' across the gravel deposit, average depth 15', concentrate, sample and assay.

b. To excavate 3 shafts to bedrock located in areas designated. See attached map marked KP-D. The shafts to be channeled, material concentrated, sampled and assayed.

From previous data the estimated yardages in the areas described above are:

1.	MS-392		1,677,000	cu. yd.
2.	Upper Beaver Creek Unpatented. .		227,300	" "
3.	High Bar Old Potato River . . .		1,000,000	" "
4.	Sand Creek 391,000 cu. yds. in third area	380,000 170,000 . .	551,000	" "
5.	MS-393 -- 70 Flats Bear Creek .		780,460	" "
	TOTAL		4,245,760	

There are additional yardages in Bear and Potato Creeks. It is proposed to re-survey these gravels and amend the Phase 1 Johnson report.

There are additional yardages on Beaver Creek above the unpatented ground, MS-269, 536, 535 (see map KP-A) and on east Deer Creek, bordering the extension of the High Bar another 1,000,000 cubic yards and on the ridge south of Iron Creek 2,000,000 cubic yards, and in Nigger & Mallory Gulchs and Spotted Tail.

From previous work done in Mallery Gulch, 3 lbs. of concentrates per cubic yard may be recovered containing as high as 22% Cb 205, Ta 205 and 45% Tin per ton of concentrates.

SUPPLEMENTARY DATA MS-392, UPPER BEAVER, MS-393.

From the south end, exclusive of Potato Creek area.

Length and width measurements by Bureau of Land Management charts.

Block A: length - 10,062 ft. width - 300 ft. ave. minimum
(rim to rim 415')
depth - 15 ft. ave. minimum

45,279,000 cubic feet.
1,677,000 cubic yards

Block B; (Upper Beaver Creek Placers)

length - 3508 ft. width - 175 ft. minimum ave.
depth - 10 ft. " "

6,139,000 cubic feet
227,300 Cubic yards

TOTAL Placer 392 and Upper Beaver . . . 1,894,300 cubic yards.

Placer M.S. 393 (70 Flats) Bear Creek

Block AA (see Surveyors Plat):

length - 2770 ft. width 300 ft. minimum ave.
depth 15 ft. " "

12,465,000 cubic feet
461,660 cubic yards

Block BB (see Surveyors Plat):

length - 3700 ft. width 200 ft. minimum ave.
depth 12 ft. " "

8,880,000 cubic feet
328,800 cubic yards

TOTAL Placer 393 . . . . . 790,460 cubic yards.

TOTAL YARDAGE FOR BOTH PLACERS . . . . . 2,684,760 cubic yards.

- - - - -

EXHIBIT "A" - Phase 2

Testing Values and Computing Total Yardage.

(1) Independent Contracts:

(a) 178 units of work to be 178 churn drill holes 6" inside diameter @ $8.00 per hour, total number feet approximately 3,000' total cost $10,000. (It is suggested a contingency fund for drilling be allowed, as no company will bid per foot basis) $ 10,000.00

Suspension to be by Operator, Operator's Engineer, concurred by Government Engineers.

(b) 20 units of work to be 20-4' x 6' shafts excavated by dragline and/or caisson method using D-8 Caterpillar Tractor where necessary 8,000.00

(c) Rental of a D-8 Caterpillar Tractor 30 days out of 60 days exploration time. $15.00 per hour per 8 hour day includes operator, fuel, repair service. 3,600.00

(d) Oscar W. Eribach, assayer, Aurora, Colorado, agrees to assay for tin, columbium, tantalium, tungsten, gold @ $25.00 per sample.

Spectographic analysis $10.00 per sample. 100.00

Estimated number of sample assays - 225 5,625.00

(2) Labor, Supervision and Consultants:

Supervision: Operator and Operator's Engineer (observed and/or advised by Government Engineers) to engage a crew to channel 6" x 24" to bedrock 2 sides of each shaft, transport the channel samples to a washing plant, composed of Pan American rougher jig, Denver Mineral 2 all jig, Harts type jig and small Wilfley table and additional equipment of necessary. The concentrates recovered are to be dried quartered, sacked and sealed for assay, one for the Government's assay, one for the Operator's assay and one for judge sample, the fourth quarters to be combined into a composite sample.

1. Services Operator's Engineer $50 per day, 15 days per month on property 1,500.00

Ten days preliminary work 500.00

Fee for report including maps, tables, photographs, recommendations (the fee does not include travel, hotel, etc.) 500.00

EXHIBIT "A" - Phase 2 -- Continued

2. Sampler-Panner Channels. (2 samplers) 500 per month, 6 day week	$ 2,000.00
3. Pan American Jig Operator, 400 per month.	800.00
4. Helpers - Labor: $1.00 to $2.75 per hour.	
a. Foreman, $400.00 per month. 6 day week. .	800.00
b. Truck Driver, $350.00 per mo. 6 day week	700.00
c. Six Helpers, $240.00 per mo. " " "	2,880.00
5. Cook, Boarding House $175.00 per month	350.00
Helper, $100.00 per month	200.00
Fuel feed, $650.00 per month	1,300.00
Placer consultant	500.00

(3) Operating Materials and Supplies:

Fuel, Repair, Repair Parts, Timber, Lumber, Explosives, and other	1,450.00
Supplies including items of equipment costing less than $50.00 each	500.00

(4) Operating Equipment:

Fund for equipment over $50.00 which may not be available on rental basis	2,000.00
Pan American Jig, per mo. allowed depreciation @ $50	100.00
Denver Equipment Jig, per mo. " " "	100.00
Hantz Clean-up Jig	200.00
3-4" Self Priming Pumps).$1.50.per.Mo..	1,000.00
Foot Valves, hose, etc.)	
5 Caissons & accompanying equipment, allowed depreciation $25.00 per month	50.00
Hoist, allowed depreciation $5.00 per month	10.00
Chain Block, allowed depreciation $5.00 per month .	10.00
Bucket, allowed depreciation $5 per month	10.00
Freight or Transportation to deliver equipment . .	1,000.00
4 Cabins, allowed depreciation $25.00 per mo. each.	200.00
1 Commissary, " " $50.00	100.00
1 Truck $240.00 per month	480.00
1 Car, $240.00 per month	480.00
1 Generator $150.00 per month	300.00

(5) Rehabilitation and Repairs:

Refrigerator	120.00
Cook Stove	50.00
Gas or Electric Water Pump on Well	120.00
Sinks and Drain in Commissary and Office	150.00

EXHIBIT "A" - Phase 2 -- Continued

Water piped to Commissary and Office (short distance) .	25.00
Beds and Bedding repaired	35.00
Cabins painted	25.00
Chimneys repaired (fire hazard)	10.00
Electric wiring checked	50.00
Installing washing plant, removal of jigs, pumps, and engines, putting equipment in working order	1,000.00
(6) New buildings, improvements, installations:	
Blacksmith Shop rehabilitated. This building with forge and other equipment is indespensable in repair work . .	500.00
(7) Miscellaneous:	
Repair truck, car, rental equipment, maintenance service	250.00
Administration Supervision, bookkeeping, vouchers, accounting, records, wages, parcel post, postage, telegrams, telephone, public liability fire and equipment insurance. Workman's compensation, employers' liability	2,500.00
(8) Contingencies:	
Other necessary expenses	5,000.00
(9) Travel and Hotel Expense, Engineer or Personnel, connected directly with exploration	2,500.00
TOTAL	$59,680.00

TESTING (approximate estimates)

Lines of drill holes across the stream gravel every 1,000 feet, 50' apart, unless otherwise marked on maps attached.

1. Beaver Creek MS-392.

   6 Test Shafts or sufficient number to check the values. (Each shaft shall have 2 channel samples to bedrock).

   69 Drill Holes to compute yardage.

2. Upper Beaver.

   2 Test Shafts (Each shaft shall have 2 channel samples to bedrock).

   20 Drill Holes.

   Wupper Beaver and MS-392, 1304' drill holes.

3. Sand Creek.

   6 Test Shafts above and below the Falls.

   29 Drill Holes to compute yardages.

   San Creek 345' drill holes.

4. Further testing on High Bar.

   3 Test Shafts.

   24 Drill Holes.

   High Bar 480' drill holes.

5. MS-393 -- 70 Flats (Bear Creek)

   3 Test Shafts.
   36 Drill Holes.

   MS-393, 625' Drill Holes.

[redacted] PROPERTIES, INC.
SPEARFISH, SOUTH DAKOTA

TIN
COLUMBIUM-TANTALUM
TUNGSTEN
GOLD

TELEPHONE
SPEARFISH 2F14

June 14, 1952

Defense Minerals Exploration Administration
Department of Interior
Washington, D.C.

Subject: Proposal for Phase 2
Contract Idm.E58, Docket 654X,
Tin, Columbium, Tantalum,
Tungsten.

Dear Sir:

Attached hereto is the proposal for Phase 2 of Contract Idm-E58, Docket 654X, Tin, Columbium, Tantalum, Tungsten, dated July 16, 1951, between the United States of America and Peggy d/b/a/ Keenan Properties hereafter termed "operator" for further testing of values and computing additional yardages on Keenan Properties' South Dakota alluvial deposits in Lower Bear Creek MS 393, High Bar Old Potato River, Upper Beaver Creek, MS 392 Beaver Creek and Sand Creek Placers, Wyoming.

It is proposed by the Operator to engage an Engineer familiar with the alluvial deposits of the area who has had successful experience with recovery of our highly strategic materials other than gold. The Engineer would furnish the Operator with a complete report including maps, charts, assays, recommendations for production methods and costs.

In conjunction with the Engineer the Operator will design and build a washing plant for recovery of the values contained in the gravel samples. The operation, although similar to Phase 1 should employ a Pan American rougher jig, Denver cleanup jig, a Hartz type jig, and a small Wilfley table.

It is proposed to contract for churn drilling 178 holes 6" inside diameter measurement, the lines of holes to be spotted every 1,000 ft., and spaced 50' apart, averaging 15' to bedrock as specified in attached Exhibit "A", and to assay concentrates recovered. It has not been possible so far to contract for churn drill work by the foot. The price quoted in some areas prior to 1952 has been $3.00 per foot. The price currently quoted is $8.00 per hour of drilling time. At $3.00 per foot the estimated 3,000 ft. would cost $9,000. It is suggested that the drilling allowance be $10,000.

It is proposed to sink 20 test shafts 4' x 6' to bedrock methods and to channel sample and assay two sides of each shaft as specified in Exhibit "A" attached.

Request is made to continue with Oscar N. Bribach, Aurora, Colorado, as assayor. The price per assay for tin, columbium, tantalum, gold, is $25.00 for over 25 assays.

Referring to the Walter W. Johnson Co., San Francisco, California, report on Phase 1, 1951, attention is called to the following discrepancies in measurements: (Attached are photostats of United States Government documents substantiating the information.)

Statement Regarding Measurements as Shown in Report on Keenan Properties by Walter W. Johnson and Figures by L. Shaffer, Bureau of Mines Representative.

1. Fig. 1. by L. Shaffer is a traced copy of Plate 90, U.S.G.S. bulletin 922 T. and is properly to scale of the original by A. C. McCutchin, Ward C. Smith and R. G. Wayland.

2. FIG. 2. also by L. Shaffer is traced from a reduced photostat of the W. C. Driskill map. In photostatic reduction the scale of this map had been reduced before being traced, from 1 inch equals 600 ft. to 1 inch equals 800 ft. However, the L. Shaffer tracing represents the scale to be 1 inch equals 600 ft., and this is supported by the Johnson figures, "Measured along Bear Creek".

3. FIG. 2 by L. Shaffer shows the distance between the north end of Block #1 and the south end of Block #5 to be 9000 ft. The text of the Johnson Report gives this distance as 8600 feet or 1.6 miles. (The measurement on the Shaffer FIG. 2 is 15 inches; at the proper scale of 800 feet to 1 inch this would represent 12,000 ft.)

4. Attention is called to Map, Township 5 NR, i.e., Bureau of Land Management, at scale 1 inch equals 1005 feet; to U.S. Surveyor General's Plat, Placer Survey 393, (KP-D) scale 1 inch equals 800 feet, to U.S.G.S. Plate 90, scale 1/24,000 or 1 inch equals 2008 feet; and to the original Driskill Map of Bear Creek, scale 1 inch equals 600 feet. All of these sources show the distance between Block #1 and Block #5 as in above para 3, to be between 11,815 and 12,000 ft. (See parenthetic reference to 12,000 ft. in above para 3. (refer to Maps attached.)

5. A study of the Bureau of Land Management Maps, and the U.S.G.S. Plate 90 (which maps show the mile posts, and lode claims referred to on FIG. 2.) make possible the following comparison of measurements:

FIG. 2 - Shaffer-Johnson @ 1 inch - 600 ft.		(@ 1 inch - 800 ft.)	U.S.G.S. Plate 90 Bu.of Land Management Map
Trench #1 to Trench #4	4750 ft.	(6400 ft.)	6690 ft.
Trench #2 to Trench #4	2350 ft.	(3200 ft.)	4770 ft.
Trench #4 to Trench #5	3150 ft.	(4200 ft.)	4500 ft.
Trench #1 Trench #5	7900 ft.	(10600 ft.)	11190 ft.

6. Potato Creek: FIG. 3. is traced from the original E. Bennett (K.P. Engineer 1949) map and at a scale of 1 inch equals 500 feet is in agreement with FIG. 1 and all the other maps referred to in paragraph 4 above. In this case, however, the Johnson figures "Measured along Potato Creek" are not in agreement with the scale of FIG. 3 - except for Block #8 at 1300 feet. If Block #8 is properly measured, Block #7 should be 1375 feet instead of 1050 feet, and Block #6, represented as being 1700 feet in length, should be 2625 feet.

7. The statement on page 1, paragraph 2, of the Johnson report.... "trenches to bedrock from rim to rim of the creek...." appears to be carelessly made. In most instances the trenches were not from rim to rim. For example: Block #1 in the Johnson data is represented as averaging 140 feet in width, based on Trench #1. The original map from which Shaffer traced FIG. 2 shows actual steel-tape measurements of this Block beginning at the Boston No. 5 boundary line and taken at 300 feet intervals. The average width of Block #1 is shown by these measurements to be 250 feet. Likewise, on FIG. 3. Potato Creek Block #9, Trench #9 is represented as being 135 feet from rim to rim. The original maps of this Block show an average width of 251 feet.

In addition, attention is called to width and yardage of Block #8 on Potato Creek, based on Trench #8 by Johnson. This trench, 130 feet long, was channelled twice only, the two cuts approximately 20 feet apart (samples 56 and 57) being on one side of

the creek only. Johnson in his report gives the entire Block #8 a width of 40 feet based on this incomplete sampling. The re-check engineering data reports that approximately 90 feet of this trench was not sampled.

8. To summarize: in the Johnson report, FIG. 2. does not agree with FIG. 1. but coincides with the Johnson figures of distances. FIG. 3. agrees with FIG. 1. but does not agree with the Johnson figures. Substantial increases of yardages are indicated when the Johnson-Shaffer tracings of authoritative surveys are correctly interpreted.

With further reference to the Walter W. Johnson Co. report is the attached "Memorandum on Keenan Properties", compiled by Wm. C. Broadgate, Washington, D. C., consultant for Keenan Properties, together with additional supporting evidence.

Request is made for permission to assign the contract Idm-E58, Docket 654X, to Keenan Properties, now in process of changing from a Corporation (formed Nov. 1951) to a limited partnership.

Request is also made to amend said contract to include the lease dated Nov. 30, 1951, on Sand Creek Placers (copy attached), and lease dated June 14, 1952, M.S. 393 (70 Flats on Bear Creek). Both of the Owners Consent to Lien form are being obtained by the Operator for the Government.

Because of the short operating season and the fact that the season already is well advanced it is imperative that we proceed as soon as possible with Phase 2.

It is understood that the Government Engineers will advise and observe the work as outlined and approve any amendments or changes of plan which may prove to be expedient as the work progresses.

Yours very truly,

Peggy Keenan

Peggy Keenan d/b/a/
KEENAN PROPERTIES

MINING LEASE

This INDENTURE, Made this 30th day of November in the year of our Lord one thousand nine hundred and fifty-one by and between W. O. Fillmore, Spearfish, SouthDakota and Peggy Keenan, Spearfish, South Dakota, parties of the first part, and Keenan Properties, Inc., Spearfish, South Dakota, party of the second part.

WITNESSETH: Whereas, the parties of the first part are the owners and/or control certain mining property situated in Crook County, Wyoming, on Sand Creek known as the Sand Creek Placers and consisting of Placer claims of twenty acres each, i.e., Tantalum, Tungsten, Tin,Columbium, Titanium Placers, Sand Creek Placers 1-4 inclusive and/or a total of two hundred and forty acres, Peggy K, Peggy K 1 and 2 Placer.

AND WHEREAS, The Lessee is desirous of prospecting the said real estate for minerals and developing said placer claims and extracting ores and minerals therefrom.

NOW THEREFORE, in consideration of the mutual considerations herein contained and other good and valuable considerations, the parties to this agreement hereby agree as follows, to-wit:

-1-

Lessor hereby grants to Lessee, for a period of 3 years, their heirs and assigns, the exclusive right to go upon the above described premises at any and all times by themselves or through their agents, employees and assigns with the necessary tools, vehicles and equipment, mining or otherwise, for the purpose of developing prospecting, and of mining any and all minerals and ores.

Lessee is to have the free and uninterrupted use of all roads built and in use upon said premises during the period of this Lease Agreement and Lessee shall have the right and privelage hereby to erect such other and additional roads, sluice ways, pipelines, buildings, telephone or cable and to do all other things as may be deemed necessary to the proper carrying out of exploration or mining operations upon the premises above described.

-3-

The Lessee hereby agrees to keep up the assessment work on all non-patented claims as prescribed by government Law on State Regulations, and to pay a royalty to the parties of the first part on the Sand Creek Placers, the sum of twelve and one half per cent (12½%) on the gross of any ores and minerals mined, processed and sold from said property.

-4-

Lessee has the rights and privileges of cutting all such timber as may be necessary for the proper carrying out of the mining operations on the mind Sand Creek Placers. Lessee has all water rights and privileges for placer exploration or mining.

-5-

Lessee hereby agrees to and does assume responsibility and liability for all damages and injuries to persons and property which may be the direct result of the mining operations carried out under the terms of this

Lease Agreement. It being understood that Lessor may erect and post such notices of non-responsibility and non-liabilities in connection with the mining operations as carried on under the terms of this Lease, as may be necessary to protect the said Lessor.

-6-

Lessee herein shall have the privilege of bringing upon the premises above described any and all mining equipment and materials as may be necessary for the successful carrying out of mining operations under the terms of this Lease. It being understood and agreed by the parties hereto that any such material and equipment that is brought upon the premises as aforesaid, shall remain the exclusive property of the Lessee, and that Lessee shall at all times have the right and privilege to remove the same either during or upon the termination of this Lease, whether the same be regarded by the Law of this State as fixtures or not.

-7-

The Lessee is to have the right of immediate possession to the premises and property herein the subject of this Lease upon the execution of this Agreement.

-8-

Lessee agrees to render the Lessor quarterly a true and exact statement of the amount and type of ores mined and sold from properties described under this agreement.

-9-

The payment of royalty under the terms of this agreement shall be monthly.

-10-

All payments are to be made under the terms of this agreement by depositing the amounts due to the account of the Lessor in the First National Bank of the Black Hills, Spearfish Office, Spearfish, South Dakota or to the Lessor in person.

-11-

Time is of the essence of this Agreement. This Agreement shall be binding upon both parties hereto, their heirs, assigns, and legal representatives.

The parties hereto hereby state that true and correct copy of the above and foregoing Agreement was delivered to them at the time of this Agreement and further that they acknowledge receipt of the same.

IN WITNESS WHEREOF, We have hereunto set our hands and seals on this the date first written above.

_____	_____ Lessor
_____	_____ Lessee
	_____
	_____

MINING LEASE AGREEMENT

This Indenture made this _____day of_____ in the year of our Lord one thousand nine hundred and fifty-two by and between

_____,

332 South Michigan Avenue, Chicago, Illinois, hereinafter known as the Owner and Lessor, and Keenan Properties of Spearfish, South Dakota, hereinafter known as the Lessee,

WITNESSETH: Whereas, the lessors are the owners, and/or control a certain placer claim situated in Lawrence County, South Dakota, known as MS-393 (70 Flats on Bear Creek) comprising _____acres.

AND WHEREAS, the lessee is desirous of exploring and developing said Placer Gravels contained in MS-393 for the purpose of checking and assaying the minerals and metals contained, in preparation for a mining operation as soon as possible after the values are proven commercial.

NOW THEREFORE, in consideration of the mutual considerations herein contained, and other good and valuable considerations, the parties to this agreement hereby agree as follows, to-wit:

Lessor hereby grants a lease to lessee for a period of one year from date of signing with an option to extend this lease for a period of two additional years.

Lessee agrees to use the services of an expert and recognized placer engineer, with the aid of Government Engineers and facilities for exploration and development of the placer gravels in MS-393, during the year 1952 and as soon as feasible thereafter to operate a placer mining recovery unit now engineered and designed.

The lessee agrees to pay to the lessor 10 (ten) % of the gross income from the sale of the minerals and metals derived from the operation of the stream gravel placer recovery in quarterly payments.

The lessee agrees to keep accurate records and to render a statement quarterly to lessor.

The lessor grants to the lessee, the heirs or assigns, use of the water rights on the MS-393 (70 Flats on Bear Creek) and grants to the

lessee, heirs or assigns, the exclusive right to go upon the above described premises at any and all times with necessary tools, vehicles and equipment, mining or otherwise for the purpose of developing, prospecting, or mining of all minerals, metals and/or concentrates which may contain tin, columbite, tantalite, tungsten or gold. It is agreed that all equipment remains the property of the lessee. Lessee shall have the right to remove such equipment at any time.

Lessee is to have the free and uninterrupted use of all roads built and in use on said premises during the period of this Lease Agreement and lessee shall have the right and privilege hereby to erect such washing and concentrating plants, sluice ways, pipelines, buildings, telephone or high line cable and to do all other things as may be deemed necessary to the proper carrying out of mining operations upon the premises above described.

Lessee is hereby given the right and privileges of cutting and using such timber upon said premises as may be necessary for the proper carrying out of the placer mining operations of the lessee.

Lessee hereby agrees to and does assume responsibility and liability for all damages and injuries to persons and property which may be the direct result of the mining operations carried out under the terms of this Lease Agreement. It being understood that Lessor may erect and post such notices of non-responsibility and non-liability in connection with the mining operations as carried on under the terms of this Lease, as may be necessary to protect the said Lessor.

The Lessee is to have the right of immediate possession to the premises and property herein the subject of this Lease upon the execution of this Agreement.

Lessor hereby agrees to advise Lessee of the results of the exploration and development work to be accomplished in 1952.

Time is of the essence of this agreement. This Agreement shall be binding upon both parties hereto, their heirs, assigns and legal representatives.

The parties hereto hereby state that true and correct opy of the above and foregoing Agreement was delivered to them at the time of execution of this Agreement and further that they acknowledge receipt of the same.

IN WITNESS WHEREOF we have hereunto set our hands and seals on this_____day of_____.

BLACK HILLS TIN COMPANY
Lessor

_____
Ross J. Beatty, Jr.

_____
John Beatty

KEENAN PROPERTIES

_____
President

STATE OF ILLINOIS)
) ss.
COUNTY OF COOK)

On this_____day of_____1952, before me, _____
_____, personally appeared_____
known to me or satisfactorily proven to be the person whose name is subscribed to the within instrument and acknowledged that ___he executed the same for purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

_____
Notary Public

My commission expires_____.

STATE OF ILLINOIS)
) ss
COUNTY OF COOK)

On this_____day of_____, 1952, before me, _____, the undersigned officer, personally appeared_____, known to me or satisfactorily proven to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

_____
Notary Public

My commission expires_____.

STATE OF SOUTH DAKOTA)
) ss.
COUNTY OF LAWRENCE)

On this_____day of_____, 1952, before me,_____
_____, personally appeared_____
_____, known to me to be the president of the corporation that is described in and that executed the within instrument and acknowledged to me that such corporation executed the same.

_____
Notary Public

My commission expires_____.